Exploratory Visit for the Antimicrobial Resistance Country-Level Implementation Pilot in Zambia, July 6–18, 2003: Trip Report

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About RPM Plus

RPM Plus works in more than 20 developing countries to provide technical assistance to strengthen drug and health commodity management systems. The program offers technical guidance and assists in strategy development and program implementation both in improving the availability of health commodities—pharmaceuticals, vaccines, supplies, and basic medical equipment—of assured quality for maternal and child health, HIV/AIDS, infectious diseases, and family planning and in promoting the appropriate use of health commodities in the public and private sectors.

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Key Words and Terms

Antimicrobial Resistance; USAID; WHO

CONTENTS

ACRONYMS

AED	Academy for Educational Development
AFRO	Regional Office for Africa [WHO]
AIDS	acquired immunodeficiency syndrome
AMR	antimicrobial resistance
APUA	Alliance for the Prudent Use of Antibiotics
ARCH	Applied Research in Child Health
ART	antiretroviral therapy
ARV	antiretroviral
BU	Boston University
CA	cooperating agency
CBoH	Central Board of Health
CCM	Country Coordinating Mechanism
CDC	Centers for Disease Control and Prevention
DHMB	District Health Management Board
DHMT	District Health Management Team
DTC	Drug and Therapeutics Committee
GFATM	Global Fund to Fight AIDS, Tuberculosis, and Malaria
GH	Bureau for Global Health [USAID]
GP	general practitioner
GRZ	Government of the Republic of Zambia
HIV	human immunodeficiency virus
IEC	Information, Education, Communication
IPT	intermittent presumptive treatment
JICA	Japan International Cooperation Agency
LDHMB	Lusaka District Health Management Board
MDR	multi-drug resistant
MoH	Ministry of Health
MRSA	Methicillin-resistant *Staphylococcus aureus*
MSH	Management Sciences for Health
NDP	National Drug Policy
NMCC	National Malaria Control Center
PCP	*Pneumocystis carinii* pneumonia
PMTCT	Preventing Mother-to-Child Transmission
PRA	Pharmaceutical Regulatory Authority
PRDU	Promoting Rational Drug Use
QA	quality assurance
QC	quality control
RPM Plus Program	Rational Pharmaceutical Management Plus Program
SARS	severe acute respiratory syndrome
SP	sulfadoxine-pyrimethamine
STG	Standard Treatment Guidelines
STI	sexually-transmitted infection
TB	tuberculosis

TDRC	Tropical Disease Research Center
USAID	United States Agency for International Development
USG	United States Government
UTH	University Teaching Hospital
UTI	urinary tract infection
WHO	World Health Organization
ZIHP	Zambia Integrated Health Project

BACKGROUND

The use of antimicrobial drugs has significantly contributed to the decline in morbidity and mortality due to infectious diseases over the past half-century. This achievement is now being undermined by the rapidly growing problem of Antimicrobial Resistance (AMR). Infectious diseases, such as tuberculosis, sexually–transmitted infections (STIs), pneumonia, malaria, dysentery, and human immunodeficiency virus/acquired immunodeficiency syndrome(HIV/AIDS) are becoming increasingly difficult and expensive to treat, particularly in developing countries where resources are limited and infection rates are high. The increased morbidity, mortality, and treatment costs associated with resistant infections are seriously impacting infectious disease prevention and control efforts worldwide.

In 1998, the United States Agency for International Development (USAID) Bureau for Global Health (GH) developed an Infectious Disease Strategy with AMR as a central and cross-cutting component. A priority activity was to support the development by WHO of the *Global Strategy for Containment of AMR*. This global plan, released in 2001, is comprehensive and complex, making it difficult to implement in many developing countries. In recognition of this problem, USAID/GH is supporting a multi-partnered [Management Sciences for Health (MSH)/Rational Pharmaceutical Management Plus (RPM Plus), Academy for Educational Development (AED)/Change, Boston University (BU)/Applied Research in Child Health (ARCH), Alliance for the Prudent Use of Antibiotics (APUA), Harvard Drug Policy Group] effort to develop a systematic guide for the design of country-level efforts to contain AMR.

As global initiatives, e.g. Global Fund to Fight AIDS, Tuberculosis, and Malaria (GFATM), United States government (USG) Presidential preventing mother–to–child transmission (PMTCT) Initiatives, increase the flow of HIV/AIDS, Malaria and tuberculosis (TB) drugs to developing countries, there is increasing urgency to raise awareness about and strengthen interventions to contain AMR. Without timely and adequate attention to the proper management of newly available and increased quantities of drugs, the problem of resistance will likely increase at an accelerated pace and render these drugs less effective.

Purpose of Trip

Mohan P. Joshi, Project Manager for AMR at RPM Plus/MSH, Nancy Pollock, Senior Program Officer, Change Project/AED together with Marni Sommer, Pharmaceutical Management Advisor, USAID/GH traveled to Lusaka, Zambia to conduct an exploratory visit for the proposed pilot of the systematic guide for the design of an AMR country–level containment effort.

The team was in Zambia for the following dates: July 6–18, 2003. The majority of the visit was spent in Lusaka, with two day trips, to Macha and to Kabwe.

Scope of Work

Scope of work for the team:

- Discuss logistics and coordination of planned activities with resident representatives of RPM Plus and ARCH.

- Meet with USAID/Zambia to present the pilot activity and obtain initial feedback, recommendations on key stakeholders to meet, and priority resistance issues for Zambia.

- Conduct meetings with local stakeholders and potential partners within the Government of the Republic of Zambia (GRZ), Central Board of Health (CBoH), professional societies, other cooperating agencies (CAs) and partners to determine level of interest in the problem of AMR and learn about existing activities to monitor, contain, or raise awareness about resistance.

- Provide a debriefing to USAID/Zambia, with overall findings and potential next steps.

ACTIVITIES

1. Discuss logistics and coordination of planned activities with resident representatives of RPM Plus and ARCH.

The team met with Mr. Oliver Hazemba, the Regional Technical Advisor for the RPM Plus Program and Dr. Michael Macdonald, Resident Advisor on Malaria at the ARCH Project in Zambia. Both emphasized the significant problems of resistance in Zambia and were especially supportive of the proposed field–test. Dr. Macdonald also commented on the important role that communications/behavior change plays in AMR containment and hoped the proposed activity would strengthen the country capacity to create effective interventions in this area.

2. Meet with USAID/Zambia to present the pilot activity and obtain feedback and recommendations.

The team, along with Mr. Oliver Hazemba, presented the pilot activity to Dr. Dyness Kasungami and Dr. Steve Hodgins. A copy of the introductory presentation is contained in Annex 1. The team also presented a tentative list of stakeholders to meet and requested Mission assistance in identifying additional stakeholders to meet.

Key feedback/recommendations from Dr. Kasungami:

- Chloroquine resistance is a prime example of what a real problem AMR is in Zambia.
- The process of establishing the extent of the AMR problem has thus far not been systematic, nor have efforts been conducted to clearly identify priority activities. The approach has been to switch to an alternative drug when one drug does not appear to work. One day such alternative drugs may not be available, or, if available the drugs may not be affordable.
- A response to AMR needs to be a broad one with a wide range of stakeholders who understand the level of commitment that is needed.
- It is critical that the donors participating in the effort to bring more drugs into the country also participate in the effort to ensure that the drugs remain effective. Given that we are going into a situation with more complex treatment regimens and many new drugs, awareness of and attention to potential resistance is essential.
- The GRZ has many competing priorities, but they are the most important stakeholders. It is essential to find ways to keep them engaged. An important area of GRZ interest would be the cost–saving measures that would result from efforts to slow the pace of resistance.

Key feedback/recommendations from Dr. Hodgins:

- Donors and technical agencies will generally be enthusiastic, but to encourage a similar level of response from government counterparts who have a lot of competing priorities is often a challenge.

- There is a tension between addressing the immediate needs of patients today versus those of future patients. In Zambia, prudent use does not always mean less use and there are potential difficulties of holding new antimicrobials in reserve when the need for them is urgent.

Additional stakeholders recommended:

- Dr. Kasungami emphasized the importance of meeting the Lusaka District Health Management Team and with people in the private sector.

- Dr. Hodgins recommended we meet with the Centers for Disease Control and Prevention and Prevention (CDC) who is responsible for much of the STI and TB work. CDC will also be likely to play an important role in managing Global Fund HIV/AIDS monies. There was a plan for CDC to conduct an AMR and STI study but the status of that study is not clear.

- Dr. Hodgins also indicated that the Japan International Cooperation Agency (JICA) is supporting the Virology Laboratory at University Teaching Hospital (UTH), and there have been informal discussions with JICA about jointly examining quality assurance (QA) of existing laboratories and/or drug quality.

3. Conduct meetings with local stakeholders/potential partners to learn about level of interest in AMR and existing activities to contain, monitor or raise awareness of AMR.

Meeting schedules with different stakeholders are presented in Annex 2. Notes on the main issues discussed during meetings with different individuals/groups are included in Annex 3. This section provides a summary of key findings.

Level of interest in the proposed AMR containment approach:

- The level of interest exceeded expectations. Stakeholders are already addressing AMR through a variety of activities, although they may not be using the precise term "AMR". Many commented on the increased urgency of addressing AMR given the expected influx of drugs through GFATM grants.

- Several key individuals expressed interest in being part of a champion group for this activity. This included the members of a local APUA chapter which is under formation.

- The proposed activity was seen as a mechanism for people working across the different disease programs, e.g. TB, malaria, HIV/AIDS, to see the commonalities of what they are trying to accomplish and to work together on common issues (e.g., drug quality, prescribing and compliance issues) to achieve greater impact. Currently, there are multiple groups working on these infectious diseases, but little interaction between them.

- Several people emphasized that in order to ensure success, the activity needs to be locally driven and supported by the Central Board of Health. The Director General of the CBoH expressed strong interest in the proposed activity. In terms of being locally driven, there

was interest from both the private and public sector for identifying a "starting point" for the activity so that it could move forward.

- There is a foundation of policy, research, monitoring and surveillance, regulatory, management and advocacy activities supported by the GRZ, USAID/Zambia, CDC, World Health Organization (WHO), and JICA that the proposed activity could build upon to generate support and formulate AMR strategies.

Brief overview of existing AMR surveillance capacity:

- In general, there is limited AMR data. Where available, data are not being adequately communicated to clinicians, policy makers or standard treatment guidelines (STG) committees and are not being used for decision-making.

- Treatment failures are recognized as a problem by clinicians, but lack of evidence makes it difficult to know whether treatment failures are due to AMR, diagnostic difficulties, poor compliance with treatment regimens, poor immune response by the patient, or poor drug quality.

- Lack of data sometimes results in Lusaka-specific data being used to represent the situation in all of Zambia.

- The lack of data regarding the extent of resistant TB in Zambia made it difficult to estimate the scope of the problem and determine the best response. Without an evidence base, it is difficult to prioritize the level of attention devoted to specific resistance issues.

Other surveillance efforts that have an AMR component:

- Malaria surveillance in sentinel sites (resulted in a change in drug policy due to drug resistance).

- CDC is providing technical assistance to strengthen STI and TB surveillance.

- JICA is supporting HIV/AIDS surveillance.

- The WHO regional office is beginning to support AMR surveillance for epidemic diseases (cholera, dysentery, meningitis, dengue and plague) as part of its Integrated Disease Surveillance program.

- Drug quality is not currently being monitored, but may be supported through some of the GFATM grants.

- The need for monitoring drug use is recognized (although not currently done) and was offered as one area of focus for the proposed country approach.

Brief overview of discussions on drug use and availability

- Drug availability in the public sector has improved, but remains a problem in some areas. Unrestricted availability in the private sector alarms program managers and practitioners in both the public and private sector.

- In Lusaka, co-trimoxazole is being reserved for the prophylactic treatment of *Pneumocystis carinii* pneumonia (PCP) in HIV patients. In the one rural hospital visited (Macha), it was still being used for the treatment of pneumonia in adults, and in combination with other antibiotics for the treatment of upper respiratory infections in children.

- There is already concern regarding the use of antiretrovirals (ARVs) and possible loss of their effectiveness due to resistance. ARVs are available in the private sector, including from the gates of drug wholesalers, and there were several accounts of monotherapy. Stigma is an issue affecting treatment seeking from appropriate sources.

- There is concern regarding the lack of second–line drugs to treat multi–drug resistant (MDR)–TB cases. The association of TB with HIV may be causing some delay in treatment seeking for TB.

- Misperceptions regarding the appropriate use of sulfadioxine–pyrimethamine (SP) exist among consumers and health workers.

Brief overview on the policy and regulatory environment:

- Implementation of the new malaria policy should generate lessons learned valuable for future drug policy changes regarding drug distribution, health worker training and consumer education. The proposed activity could support this transfer of information across programs.

- The team was impressed that Drugs and Therapeutic Committees (DTCs) have been established in public hospitals. Unfortunately, manpower constraints have affected their ability to function in the provincial hospital and the mission hospital that were visited. The Lusaka District Health Management Board (LDHMB) is supporting activities to improve DTCs.

- The Drug Regulatory Authority currently has limited capacity. Over-the-counter availability of antimicrobials is an issue of concern along with suspected poor drug quality having an impact on effective treatment and the development of resistance.

Apart from the above, other key points that emerged included:

- There has been very little research on AMR and interventions to contain AMR. There is a need for more intervention or operations research.

- Sharing of information is limited in part due to a lack of formal mechanisms to disseminate and use the information collected.

- Several people mentioned that competing priorities might pose a challenge, but overall, the proposed approach was perceived as an opportunity to strengthen existing programs rather than as a new program that would disrupt existing activities.

4. Debriefing at the USAID/Zambia Mission

Ms. Pollock and Dr. Joshi presented findings and next steps. The Mission staff included: Mr. Robert Clay, Dr. Kasungami, and Dr. Hodgins. Mr. Hazemba and Dr. Macdonald also sat in for the discussion. A summary of the debriefing is as follows:

Conclusions from the exploratory visit:

- There is a lot of interest and concern about AMR among country stakeholders.

- There is a strong need for a more coordinated AMR containment effort, particularly in light of the increase in drugs that will arrive from the various global initiatives.

- There is a good foundation of resistance-–related investments or activities on which to build this more systematic AMR plan. Previous mission investments include the following:
    - Development of Standard Treatment Guidelines, Essential Drugs List, and National Formulary
    - Courses on Promoting Rational Drug Use (PRDU)
    - Anti–malaria Drug Management
    - Technical Review of Antimicrobial Drug Information
    - Drug & Therapeutics Committee Workshop

- Existing and planned activities of the Government that would support AMR initiatives include the following:
    - Existence of National Drug Policy (NDP)
    - Quality Assurance Program with Infection Control as a component
    - Drug & Therapeutics Committees in each district
    - CDC support to TB laboratory surveillance and JICA support to Virology Laboratory
    - Initiative towards starting Pharmacovigilance Program with AMR as a component
    - Ongoing effort towards passing a new "Pharmacy and Medicines Bill," which is planned to have a strengthened drug regulatory body renamed as "Pharmaceutical Regulatory Authority"
    - The change in malaria treatment policy (from chloroquine to artemether/lumefantrine) is being implemented with "correct use" and "compliance" as an important component

- Local Zambian Chapter of APUA is under development

Dr. Kasungami observed that once the activity reached the point of prioritizing interventions with local stakeholders and donors, the District Health Management Boards (DHMBs) might decide to pick up some activities using their own funds.

NEXT STEPS

Immediate Follow-up Activities

- Disseminate the trip report to Zambia Mission and other key individuals.
- Brief partners supporting the current initiative on findings from the trip.
- Maintain regular contact with Oliver Hazemba on the status regarding Mission approval for further AMR activities in Zambia.

Recommendations

Providing Zambia Mission approves the proposed pilot activity in Zambia, the team recommends the following next steps:

- Partners decide on the appropriate team to go return and begin the process more formally.
- Partners develop a time–line for the process and share it with Zambia Mission for feedback.
- Partners support identification of a local champion group in Zambia to support the in-country activities, including formal approval of the process by MoH/CBoH, in–depth assessment, and subsequent consensus workshop.
- Partners refine the draft tools developed for in-depth assessment in cooperation with the local champion group to make them suitable to administer in the Zambian context.

COLLABORATORS AND PARTNERS

Annex 2 contains the complete list of persons met. Potential collaborating organizations or partners for the activity are discussed below.

Ministry of Health: Given the exploratory nature of this trip, the team did not make a formal visit, but the Ministry will be a critical player if the activity is initiated.

Central Board of Health (CBoH): Several stakeholders emphasized that the support of the CBoH would be essential to successful implementation of the project. Dr. Ben Chirwa, Director General, expressed interest in the activity as a coordinated approach to addressing the growing problem of AMR.

Lusaka District Health Management Board (LDHMB). Due to its impact in the Lusaka area as well as its influence on the activities of other districts, the LDHMB would be a key stakeholder in the project. Dr. Moses Sinkala, Director of Health, and Dr. Catherine Mukuka, DTC Chair, were both supportive of the proposed activity. The board is active in AMR issues already, having conducted, with RPM Plus, a 2002 workshop on developing STGs and strategies for containing AMR; since then, the LDHMB has supported follow–up activities.

Pharmacy and Poisons Board, Ministry of Health: This regulatory body is constrained due to limitations in funding, human resources, and authority. However, its role may change if new legislation is passed and supported. The board is interested in pharmacovigilance and drug information center interventions.

Medical Stores, Ltd.: Although the team did not visit the Medical Stores, other groups identified it as a key player to involve, should the activity be initiated.

UTH, WHO, CDC, JICA: These organizations are all key players in AMR surveillance and other AMR–related activities. The team did not meet with JICA, but the agency is recognized as an important player to contact as a potential partner if the activity goes forward.

National Malaria Control Center (NMCC): Because of the impact of malaria in Zambia, as well as the center's work in containing resistance—with the potential for that work to inform other efforts—the NMCC is seen as a key player. Staff at the center were extremely interested in the project as a way of coordinating various related ideas and activities under one umbrella activity.

Zambia Integrated Health Project (ZIHP)Comm/ARCH: Behavior change and communication were recognized across all stakeholder groups as important to successful implementation of the activity. ZIHPComm and ARCH's expertise in the social sciences would be valuable in improving communication and promoting behavior change.

APUA Zambia Chapter: This chapter, which is still in development, brings an expertise in microbiology and antibiotic resistance that would be valuable.

Professional Societies and the Private Sector: Representatives of professional groups and private sector organizations visited admitted that there had been little collaboration with the public sector to date. However, they also expressed an understanding of the need for such collaboration and a willingness to participate in containing AMR.

ANNEX 1. PRESENTATION MADE DURING THE INITIAL BRIEFING OF THE MISSION OFFICIALS

Supporting Local Strategies to Contain Antimicrobial Resistance

The CHANGE Project
Harvard Drug Policy Group
Applied Research on Child Health (ARCH) Project
Alliance for the Prudent Use of Antibiotics (APUA)
Rational Pharmaceutical Management Plus Program (RPM Plus)

funded by the United States Agency for International Development

Objectives

- Present a country-level approach for implementing the *WHO Global Strategy for Containment of Antimicrobial Resistance*
- Discuss potential application of approach in Zambia
- Seek Mission advice on key players to meet during our visit and key issues to consider

Global Disease Burden and AMR Levels

Infectious Disease	Global Deaths (2001)	Caes/Year	Illustrative Drug and Resistance Levels	Resistance to Multiple Drugs
ARI	3,947,000		Penicillin: **12-55%**	**Yes**
HIV/AIDS	2,866,000	5.3 mil	Antiretrovirals: **???**	**Yes**
Diarrheal Disease	2,001,000	1.5 bil (<5)	Cotrimoxazole: **5-95%**	**Yes**
TB	1,664,000	8.8 mil	Isoniazid: **2-39%**	**Yes**
Malaria	1,124,000	300 mil	Chloroquine: **30-50%**	**Yes**
Gonorrhea	2,000	333 mil.	Penicillin: **up to 98%**	**Yes**
Total :	**11,604,000**			

Sources: 2002 World Health Report and WHO reports

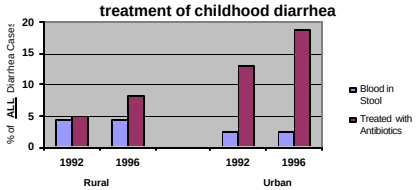
Growing Drug Resistance:
A Threat to the Success of Health Programs

Potential to:

- Increase healthcare costs
- Increase disease transmission
- Increase mortality
- Erode confidence in health system

Patient Access and Drug Utilization

Increase in reported use of antibiotics for the treatment of childhood diarrhea



In addition to reducing the risk of developing AMR, addressing AMR by improving diarrhea treatment can reduce unncessary drug use and treatment costs.

Zambia Demographic and Health Survey (ZDHS) data downloaded from StatCalc, www.measuredhs.com

Patient Access and Drug Utilization

- **Misuse:** 50% diarrhea cases (non-dysentery/non-cholera) prescribed antibiotics (range:17.6-80%)
- **Rationale:**
  - Inappropriate use of antibiotics
  - Expensive, develop resistance
- **Interpretation:**
  - Overuse of antibiotics, expensive practice, increase incidence of resistance

Baseline Survey 2002. 12 Lusaka Health Centers (Public Sector), MSH/RPM Plus

Global Initiatives: Implications and URGENGY

- Global Fund to Fight AIDS, TB and Malaria
- Stop TB/Global Drug Facility
- USG Presidential Initiatives – HIV/AIDS
- World Bank – MAP

USAID Response

- Developed Infectious Disease Strategy with AMR as a central component
- Supported development by WHO of the Global Strategy to Contain AMR
- Supporting implementation of the Global Strategy at country level

Preserving the Effectiveness of Existing and Affordable Drugs is Critical

Drugs are losing effectiveness ***more quickly than new drugs are being developed***

Ideal Response to Infectious Disease

Prevention
- Immunizations
- Hygiene, safe water/food
- Infection control in hospitals
- ITMs; vector control
- Condoms
- Other behavior changes

Treatment
- Correct diagnosis and treatment recommendations
- Recommended drugs available
- Treatment regimen followed

Surveillance and response
- Monitor disease trends
- Detect/predict epidemics
- Evaluate disease control efforts

Public Sector

Private Sector and NGOs

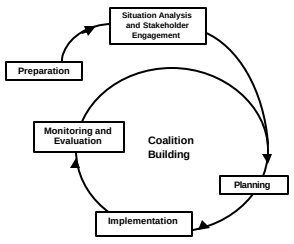
Global Initiatives
- RBM, StopTB, GDF, GFATM
- Presidential Initiatives

Goals and Objectives of the Country-Level Approach

Provide assistance implementing WHO Global Strategy at the country level

- Awareness of AMR increased
- Broad base of stakeholders mobilized to address AMR
- Realistic, locale-specific plan initiated

Elements of the Proposed Approach



Key Stakeholder Groups

- National Governments
- Public, Private and NGO health sectors
- Professional Societies
- Training and Academic Institutions
- Media/Consumers
- Pharmaceutical Industry
- Microbiologists
- Donors and international agencies

Past Mission Support of Activities to Contain AMR

- Development of STG, EDL, and National Formulary
- PRDU course (1990, 1998)
- Anti-malaria Drug Management
- Technical Review of Antimicrobial Drug Information
- DTC Workshop

Illustrative Country Interventions

- Develop Communication strategies
- Improve Infection Control in Hospitals
- Increase access to and use of STGs
- Improve drug use behaviors
- Ensure good drug quality
- Strengthen Drug & Therapeutic Committees

Next Steps

- Meet with key players
- Assess country level interest and concerns
- Debrief and discuss findings and potential future steps

ANNEX 2. PERSONS MET

USAID Mission
Mr. Robert Clay
Dr. Dyness Kasungami
Dr. Steve Hodgins

Central Board of Health (CBoH)
Dr. Ben U. Chirwa, Director General
Ms. Dorothy Shamatutu, Pharmacy Specialist

Kabwe Provincial Health Services
Dr. G. L. Kasanda, Kabwe Provincial Health Director, Central Board of Health, Kabwe
Dr. Dennis Mulenga, Executive Director, Kabwe General Hospital and Kabwe Mine Hospital, Kabwe

Lusaka District Health Management Board (LDHMB), CBoH
Dr. Moses Sinkala, Director of Health
Dr. Catherine Mukuka, Pediatrician and DTC Chair, Lusaka District

Center for Disease Control & Prevention, Zambia Office
Mr. David B. Nelson, Director, CDC, Global AIDS Program, Zambia
Dr. Mark Shields, Information Systems, Monitoring & Evaluation, CDC, Global AIDS Program, Zambia

World Health Organization
Dr. Eddie Limbambala, Medical Officer/Disease Prevention and Control

Pharmacy and Poisons Board, Ministry of Health
Mrs. Esnat Mwape, Registrar
Mrs. Bernice Mwale, Pharmacist

National Malaria Control Center (NMCC)
Mr. Caesar Modondo, Drug Coordination Officer
Dr. Naawa Sipilanymbe, Malariologist
Mr. George Sikazwe, IEC Specialist
Dr. Michael Macdonald, Resident Advisor, Malaria

University Teaching Hospital, Lusaka
Dr. Chifumbe Chintu, Professor of Pediatrics & Child Health and Consultant Haematologist & Oncologist
Dr. James Mwansa, Consultant Microbiologist (bacteriology specialist) and Honourary Lecturer

Macha Mission Hospital, Choma
Mr. Stanford Zulu, Manager of Clinical Care

Corpmed Srevices, Ltd., Lusaka
Dr. J. C. K Chisanga, Physician
Don, Laboratory Technician

Management Sciences for Health
Mr. Oliver Hazemba, Regio nal Technical Advisor

Applied Research for Child Health (ARCH) Project
Dr. Mubiana Macwan'gi

Zambia Integrated Health Program (ZIHP)
Ms. Josephine Akakulubelwa Nyambe, Women and Children Package Coordinator, ZIHPComm

General Practitioners/Pharmacists
Dr. Mike Bush, CFB Medical Centre
Dr. L.M. Kafwabulula, TB and Leprosy Specialist, CBoH
Dr. Usha Padmanabhan, Westview Medical Centre
Mr. Mervyn Shakalima, Pharmacist
Ms. Freda Mandona, Pharmacist
Ms. Anne Zulu, Pharmacist
Ms. Tania Nyirongo, Territory Manager, Glaxo Smith Kline

APUA Zambia Chapter (in development)
Mweemba Muvwimi – Chest Diseases Laboratory, UTH
Chileshe Lukwesa Musyani – Pathology and Microbiology Dept, UTH
Betty Munalula – Dept of Physiological Sciences, School of Medicine, Lusaka
Darlington M. Mwenya – Pathology and Microbiology Dept, UTH
Dr. James C. L. Mwansa – Dept of Pathology and Microbiology, UTH
Dr. Lungwani T. Muungo – Pharmacy Dept, School of Medicine, University of Zambia, Lusaka
Mr.Oliver Hazemba – MSH Office, Lusaka

Appointment Schedules for the Team

Day/Date	Time	Person(s) Visited	Meeting Venue
Tuesday, July 8, 2003	12noon	Dr. Michael Macdonald	Hotel Pamodzi, Lusaka
Tuesday, July 8, 2003	2pm	Mr. Oliver Hazemba	Hotel Pamodzi, Lusaka
Tuesday, July 8, 2003	4pm	Dr. J. Mwansa	Hotel Pamodzi, Lusaka
Wednesday, July 9, 2003	9am	Dr. B. U. Chirwa	CBoH, Lusaka
Wednesday, July 9, 2003	11.30am	Ms. D. Shamatutu	CBoH, Lusaka
Wednesday, July 9, 2003	2pm	Ms. M. Macwan'gi	ARCH Office, Lusaka
Wednesday, July 9, 2003	3.30pm	Dr. J. C. K. Chisanga	Corpmed Clinic, Lusaka
Thursday, July 10, 2003	8am	Dr. D. Ksungami and Dr S. Hodgins	Mission Office, Lusaka
Thursday, July 10, 2003	12.30pm	Meeting with founding members of APUA Zambia Chapter (in development)	MSH Office, Lusaka
Thursday, July 10, 2003	2.30pm	Professor C. Chintu	UTH, Lusaka
Friday, July 11, 2003	9am	Mrs. E. Mwape and Mrs. B. Mwale	Pharmacy & Poisons Board, Lusaka
Friday, July 11, 2003	2.30pm	Mr. C. Modondo, Dr N. Sipilanymbe, Mr. G. Sikazwe, Dr. M. Macdonald	NMCC, Lusaka
Saturday, July 12, 2003	1.30pm	Mr. S. Zulu	Macha Mission Hospital, Choma
Monday, July 14, 2003	11.30am	Dr. G. L. Kasanda	Kabwe Provincial Health Office, Kabwe
Monday, July 14, 2003	1pm	Dr. D. Mulenga	Kabwe General Hospital, Kabwe
Tuesday, July 15, 2003	8.30am	Ms J. A. Nyambe	ZIHP Office, Lusaka
Tuesday, July 15, 2003	10am	Mr. D. B. Nelson and Dr M. Shields	CDC, Global AIDS Program, American Embassy, Lusaka
Tuesday, July 15, 2003	2.30pm	Dr M. Sinkala and Dr C. Mukuka	LDHMB Office, Lusaka
Wednesday, July 16, 2003	10am	Dr. E. M. Limbambala	WHO Office, Lusaka
Wednesday, July 16, 2003	6pm	General Practitioners and Pharmacists	Hotel Pamodzi, Lusaka
Thursday, July 17, 2003	11am	Mr. R. Clay, Dr. D. Kasungami, Dr. S. Hodgins	Mission Office, Lusaka
Thursday, July 17, 2003	2pm	Medicine Grand Rounds	UTH

ANNEX 3. NOTES ON DISCUSSIONS WITH PARTNERS AND COLLABORATORS

This annex provides notes on issues discussed at meetings with local stakeholders and cooperating agencies in Zambia. The notes appear in the order in which the meetings took place.

Meeting with Dr. James Mwansa, Consultant Microbiologist and Honorary Lecturer, University Teaching Hospital, Lusaka, Zambia

Interestingly, Dr. Mwansa had attended a WHO/Regional Office for Africa (AFRO) meeting in Harare two weeks prior to the team's visit. The meeting gathered bacterial–unit heads of sub–Saharan Africa to discuss the integrated surveillance of AMR.

Dr. Mwansa provided background on the two key labs in Zambia [UTH and Tropical Disease Research Center (TDRC)] and their areas of work. He also described AMR–related issues as he saw them, including a severe lack of information (e.g., journals) and a shortage of human resource capacity.

He discussed some findings on AMR. Among the most dramatic was that of tetracycline–resistant *Vibrio cholerae,* with a 1990 level of about three percent rising to nearly 100 percent in 1995. The subsequent decline in the use of tetracycline for treating cholera has brought the resistance level among *V. cholerae* isolates to about 60 percent.

According to Dr. Mwansa, the UTH lab, in the course of routine microbiological work, generates a good amount of data on current levels of resistance among the isolates. He acknowledged, however, that the data are not necessarily reaching clinicians, policy makers, the STG team, and other relevant players. This led to a discussion on the potential need for a drug information center in the country.

Dr. Mwansa further commented that, although there is a general awareness of the problem of resistance in treating malaria and TB, there is not much knowledge in Zambia about AMR as a major public health problem, resulting in a low level of concern. Dr, Mwansa urges that raising this awareness be a priority under the proposed activity, with a second priority being to develop policy for appropriate antibiotics management at the national and/or hospital level(s), and a third to strengthen information–sharing to ensure the accessibility of key information to clinical and policy decision makers. Other priorities discussed included an emphasis on adequate preservice as well as in–service exposure to AMR issues, and the strengthening of both the laboratory network and quality control.

A barrier identified by Dr. Mwansa is the lack of coordination among several groups with overlapping interests, such as the TB and malaria programs, the TDRC and UTH. All are involved in surveillance and resistance issues, but they rarely come together to share information and strategies in core AMR areas of common interest. Dr. Mwansa recommended that a strategy should be developed to bring together the various groups to address some of the broad issues of AMR relevant to their each group's area of focus.

Meeting with Dr Ben U. Chirwa, Director General, CBoH, Lusaka

Dr. Chirwa confirmed that AMR is a serious concern in Zambia. He referred specifically to the development of resistant strains of TB and the government's recent move to acquire second–line anti–TB drugs, as well as the major problem of antimalarial resistance and the government's efforts to monitor it. He also noted that a treatment plan for HIV/AIDS is currently being developed that provides for monitoring of drug resistance. Dr. Chirwa expressed readiness to work with the team, as well as a preference that at least a part of the funding for the activity would be directed through the "basket", as has funding for other activities in Zambia. He assured the team that Zambia would support the activity if it were initiated.

Meeting with Ms. Dorothy Shamatutu, Pharmacy Specialist, CBoH, Lusaka

Ms. Shamatutu was positive about the proposed initiative and concerned about the problem of AMR. She noted that antimicrobials account for the largest share of MoH's drug bill and further discussed her concern regarding the overt–the–counter availability of antibiotics in Zambia, which persists despite regulations stipulating these drugs as prescription–only medicines.

She also touched on the issues of entry of unregistered drugs in the country and the lack of quality control of drugs in the marketplace. The new Pharmacy and Medicines Bill, which would support the implementation the National Drug Policy (passed in 1998), is currently being considered in the legislature and, it is hoped, may be passed within a year. This would allow for the establishment of a national drug quality control laboratory, among other activities. Zambia currently must rely on dossiers submitted by manufacturers, as no QC lab exists.

Ms. Shamatutu was of the opinion that many health care providers are aware of the problem of AMR, but that the public is generally not. She defined as a priority mass media communication activity aimed at increasing awareness of AMR, along with promoting the enforcement of prescription laws by strengthening the inspectorate process of the Pharmacy and Poisons Board.

Meeting with Dr. Mubiana Macwan'gi, ARCH, Lusaka

Dr. Macwan'gi explained that ARCH has been trying since 1998 to build research capacity in the country. She noted that only a few studies have been done on drug use and AMR in Zambia and what does exist is mostly on malaria. A National Health Research Agenda, set forth in 1998, identified an important gap in noting the research conducted was not leading to better interventions. She pointed out that the malaria policy–change experience had made clear that good baselines on behavioral issues are essential. She also mentioned that the team/activity must be mindful of the fact that the majority of Zambians do not have access to radios or TV and are not literate, so any communications activities must be well designed, targeted, and monitored/measured for impact. Dr. Macwan'gi agreed that AMR containment would be beneficial to the public health in Zambia.

Meeting with Dr. J. C. K. Chisanga, Corpmed Services, Ltd., Lusaka

Corpmed is a private clinic run by a group of doctors in Lusaka. Dr. Chisanga provided background on the general services of the Corpmed Clinic and then commented on AMR issues. In her experience, *E. coli* strains isolated from UTI seen at the clinic were generally resistant to nalidixic acid but were sensitive to ciprofloxacin and cefuroxime. She added that treatment of TB and other bacterial infections in HIV patients can be difficult because patient adherence to treatment sometimes drops when patients start feeling better. She described her strategy for preventing such nonadherence, which is ensuring that another person in the patient's family agrees to supervise continued compliance to the recommended treatment. Dr. Chisanga has also spent many years working in the public sector, allowing her valuable insights that cross the public and private sectors.

After meeting with Dr. Chisanga, the team visited the laboratory of the clinic and met with one of the lab staff members who briefly described the basic tests performed, including microbiological tests.

Meeting with APUA Zambia Chapter (newly forming)

The team met several members of the APUA Zambia chapter that is being planned—

- Mweemba Muvwimi W.—Chest Diseases Laboratory, UTH
- Chileshe Lukwesa Musyani—Pathology and Microbiology Department, UTH
- Betty Munalula—Department of Physiological Sciences, School of Medicine, University of Zambia, Lusaka
- Darlington M. Mwenya—Pathology and Microbiology Department, UTH
- Dr. James C. L. Mwansa—Pathology and Microbiology Department, UTH
- Dr. Lungwani T. Muungo—Pharmacy Department, School of Medicine, University of Zambia, Lusaka
- Oliver Hazemba—MSH, Lusaka

Dr. Joshi made a short presentation to the group covering issues such as the current global problem of AMR, factors contributing to the crisis, its cost and impact, the growing threat of multi–drug resistant organisms in hospitals and the community, and USAID initiatives to contain the problem.

Ms. Munalula stated that patients and the public in Zambia have a poor awareness of the problem at present and suggested a need for programs designed to sensitize Zambians to the problem of AMR. Mr. Muvwimi added that the general public in Zambia does not recognize the risks of poor–quality drugs and buying drugs from informal vendors. Ms. Musyani said that the vast majority of pediatric inpatients are given antibiotics, with microbiological test done in only a small proportion. Dr. Mwansa talked about the general tendency of doctors in Zambia to prescribe newer antibiotics. Mr. Mwenya told the team that methicillin–resistant *Staphylococcus aureus* (MRSA) is a problem in hospitals as well as in the community. Dr. Muungo urged the launching of a comprehensive program to contain AMR. Mr. Hazemba then informed the team that the formation of the APUA Zambia chapter is in its final stages and would soon become

formally established. The local APUA group has a great interest in AMR issues and made clear that if an AMR containment program is initiated, this group will be a valuable resource of support.

Meeting with Dr. Chifumbe Chintu, Professor of Pediatrics and Consultant Hematologist and Oncologist, UTH

Professor Chintu agreed that drug resistance is a growing problem in Zambia, citing pneumococcal resistance to penicillin as well as a high degree of resistance to co-trimoxazole. Dr. Chintu has conducted substantial research and has a number of publications on HIV and TB. He is concerned that MDR–TB in Zambia could soon increase significantly without careful management of TB patients, which is further complicated by the problem of HIV co–infection.

Dr. Chintu described his research on child deaths from respiratory illness, in which the major findings were pyogenic pneumonia, *Pneumocystis carinii* pneumonia, cytomegalovirus infection, and TB upon autopsy. He also discussed his ongoing research with TB–infected prison staff and prisoners. He emphasized that the AMR problem in Zambia, particularly as related to TB, HIV/AIDS, and the role of co-trimoxazole, needs to be addressed quickly.

Dr. Chintu is currently working to establish an effectively, functioning Drug and Therapeutics Committee at UTH.

Meeting with the staff of Pharmacy and Poisons Board, Ministry of Health, Government of the Republic of Zambia

Mrs. Esnat Mwape, Registrar of the Pharmacy and Poisons Board, also shared her concerns about the escalation of AMR in Zambia, citing malaria in particular and stating that action must be taken soon. She then described the challenges faced by the Board, which included constraints imposed by current regulations. Although the Board is responsible for registration of products and traders (wholesalers and dispensers) and inspection of sales outlets (including both products and precincts), it suffers from a severe shortage of human resources, rendering inspection activities inadequate. Additionally, the Board does not have its own independent quality control laboratory. Nor does the Board have access to any independent sources of drug information to support its activities and decision making. The Board Pharmacist, Mrs. Bernice Mwale, noted that often the only information available to staff comes from the drug registration dossiers submitted by applicants.

Mrs. Mwape stated that Zambia's Pharmacy and Poisons Act in Zambia is quite outdated, having been instituted in 1941, and expressed hope that the new Pharmacy and Medicines Bill would be passed soon. Under the new legislation, the current Pharmacy and Poisons Board will become the Pharmaceutical Regulatory Authority (PRA). She stressed the need for a well–equipped quality control laboratory and described what she perceives as a great deal of interest in implementing a national pharmacovigilance activity.

Both Mrs. Mwape and Mrs. Mwale emphasized the need for political will to address the issue of AMR. In addition, they concurred on several key areas for an AMR activity to include: the

provision of an independent drug information service; education of the public and health care providers in AMR issues; sufficient inclusion of AMR topics in the various health professional education curricula; and approaches to improve prescribing and dispensing practices.

When asked about their involvement with the GFATM and the Country Coordinating Mechanism (CCM) for Zambia, both Mrs. Mwape and Mrs. Mwale replied that they are aware of the proposals/awards, but have not been invited to participate in the process. They did not know who would be responsible for procuring the large amounts of pharmaceuticals involved.

Meeting with Staff of National Malaria Control Center (NMCC), Lusaka

Mr. Caesar Modondo provided an overview of the recent change in malaria treatment policy and the implementation process. He cited three strong concerns: continued prescribing of artemisinine monotherapy, drug quality, and continued use of chloroquine (especially in the private sector) despite its ineffectiveness (due to a lack of a strong communications/information system). He stated that steps must be taken to reduce the possibility that more antimicrobials will become ineffective due to resistance, as have chloroquine and ampicillin. Mr. Modondo concluded by saying that efforts are underway to initiate a pharmacovigilance activity in Zambia, which would be comprehensive and include AMR issues as a component. The latter was incorporated into one of the GFATM proposals, so funding should become available.

Dr. Naawa Sipilanymbe noted that the current average level of resistance is as high as 64 percent for chloroqine and about 8 percent for SP. She stated a need to initiate additional AMR activities in Zambia and strongly endorsed the idea of a workshop to bring together people working on different disease programs and enable them to recognize common issues in their work, such as rational drug use. Mr. George Sikazwe suggested that a comprehensive information, education and communication (IEC) activity would be extremely helpful, although the activity would need to take into account that a large number of people living in rural areas who do not have access to radio, television, or newspapers. Mr. Sikazwe added that street theater and drama groups are popular in the country and these could be used as a part of a larger IEC campaign. Dr. Macdonald commented that the National Malaria Program attaches a lot of importance to improving drug access, quality, and compliance, which have an impact on AMR. He informed the team that IEC material on the correct use of Coartem is being developed for use when the drug is available for prescribing.

Dr. Sipilanymbe also emphasized, and Dr. Macdonald concurred, that a first step should be to review the choice of terminology. They were concerned that the term *antimicrobial resistance* belies the richness of the proposed approach and might give the impression of a more microbiologically focused activity.

Meeting with Stanford Zulu, Manager of Clinical Care, Macha Mission Hospital, Choma

The team chose to visit the Macha Mission Hospital to get a sense of experiences outside Lusaka. Mr. Zulu welcomed the idea of the AMR activity, but stressed a need to engage the "end users" in the process. An example of a current challenge of the hospital faces is how to make the transition from chloroquine, a supply of which remains on the shelves, to SP. Mr. Zulu's

description of what is actually available in rural health kits, versus what the NMCC stated they contain, underscored the importance of understanding the situation at the district level. It was also clear that the hospital clinicians are struggling with diagnosis, as TB/HIV co–infection offers varying presentations. Another challenge is sorting out the TB treatment failures from immunosuppression and determining whether the cause is drug resistance or co–infection with HIV, or other possibilities. Other resistance problems are exemplified by that of procaine penicillin, which was exceedingly effective in the past in treating gonorrhea, but no longer appears to be so. Interestingly, the hospital does not have a problem with co–trimoxazole resistance, while others we met (e.g. Professor Chintu, Mwansa) strongly suggested that co–trimoxazole resistance was a big challenge.

Per the national malaria treatment guidelines, the hospital has SP as the first–line drug and quinine is used in complicated cases. Coartem is still not in use, but it is hoped that its use will be fully implemented by 2004. Intermittent Presumptive Treatment (IPT) has been implemented in hospitals, but not yet in rural health centers. Many people consider SP to be a extremely strong and toxic drug and are hesitant to use it, creating a need for a vigorous public education campaign to dispel this misconception. Awareness of drug resistance is at present quite low among the public, and this also requires widespread awareness-raising programs.

Meeting with Dr. G. L. Kasanda, Director, Provincial Health Office, Kabwe

Dr. Kasanda gave an overview of the health care delivery and referral system at the district and provincial levels. He talked about drug resistance and his concern that the problem will grow if it is not addressed quickly. He emphasized that compliance to drug regimens is an important issue and expressed some concern over the fact that Coartem (artemether/lumefantrine), which is being introduced for treatment of malaria, might have compliance problems. Compliance to the full course of treatment can be an issue in TB as well partly because of migration of patients from one place to another while they are still on treatment. Another contributing factor to AMR in Zambia could be that people who have access to antimicrobials over the counter, without proper medical advice and prescription, tend to misuse the drugs.

The top three problems he identified as contributing to AMR were: (1) problems with the referral system; (2) migration of patients on long–term therapy (e.g., TB); and (3) multiple informal drug outlets.

Meeting with Dr. Dennis Mulenga, Executive Director, Kabwe General Hospital and Kabwe Mine Hospital, Kabwe

Dr. Mulenga strongly emphasized the need for proper management of HIV/AIDS, TB, and malaria drugs to arrive under the global initiatives. He expressed fear that without proper management and control, there would be major resistance problems within a short period of time. He also expressed his concern that the current level of resistant TB in the country is not clear and that second–line drugs are not available yet. The team learned from him that the national treatment policy dictates that all MDR patients should go to UTH. He had many concerns about the ethics of transporting patients when no protective equipment is available for the health care staff/transporters. At the same time, he felt he could not keep these patients within his own

institution and risk infecting his staff. The GRZ/CBoH is considering opening a "sanatorium" because they do not yet have the drugs to treat MDR–TB. He does not feel that the country, or his institution, has the capability to properly diagnose MDR–TB.

Dr. Mulenga welcomed the idea of initiating AMR containment activities and added that such activities are especially important at present in Zambia to preserve the efficacy of affordable drugs for HIV/AIDS and TB. He emphasized intensely the need to build on existing systems and determine what is currently being done so as to avoid duplication of efforts.

Meeting with Ms. Josephine Akakulubelwa Nyambe, Women and Children Package Coordinator at the Zambia Integrated Health Program (ZIHP)

Ms. Nyambe felt that there is a strong need to systematically monitor AMR and that there is a large gap in understanding the behavioral issues behind drug use and misuse. She did feel that all stakeholders would want AMR containment strategies to be implemented in Zambia. There are many misconceptions, she noted—for example, many people believing SP to be a strong and toxic drug—and the country needs large–scale communications campaigns to dispel such misconceptions and raise awareness about AMR. She felt that both prescribers and consumers need education on this issue, and described what she perceives as many misleading current advertisements/communication campaigns on ART. Her activities at ZIHP have included some interesting communications activities that might serve as good models for AMR work. She concluded by emphasizing the importance of having CBoH support for the proposed activity, in order to gain buy–in from other stakeholders/partners in the country.

Meeting with Staff of the Centers for Disease Control and Prevention (CDC), Global AIDS Program, Lusaka

CDC has much of the responsibility for managing the U.S. Government–funded TB and STI–related activities in Zambia. CDC staff perception of TB–related AMR issues hints at some of the challenges ahead, as the CDC office does not feel the levels of MDR–TB are significant, while the Zambian colleagues met with were clearly concerned about MDR–TB and even somewhat confused about the level of resistance that actually exists.

Mr. David B. Nelson, Director of the CDC's Global AIDS Program in Zambia, identified the need for better data on AMR to inform decision making. He commented that some GFATM funding is planned for monitoring drug resistance, which will, he hoped, generate increased evidence on resistance status.

Dr. Mark Shields, also working for the Global AIDS Program of CDC in Zambia, commented that countries would need to define standard operating procedures to ensure correct management and use of the drugs, which will be arriving in large quantities. If strict control is not established as to where the drugs will go and be sold, he stated, misuse and resistance will increase. Dr. Shields was pleased that the team was initiating discussions on AMR and felt that even this first step was helpful. Dr. Shields agreed with the team that, due to issues of drug access, quality, compliance, and correct use have an impact on AMR, such issues would also need to be addressed in AMR containment efforts. Both Dr. Shields and Mr. Nelson felt that if the AMR

work was a new *approach* to existing systems/activities, rather than a new *program*, there would be a much better chance of success.

Meeting with Dr. Moses Sinkala, Director of Health, Lusaka District Health Management Board (LDHMB), and Dr. Catherine Mukuka, pediatrician and DTC Chair of Lusaka District

Dr. Sinkala briefly informed the team about the activities of LDHMB. He commented that the problem of AMR is real in Zambia. He cited ampicillin as an example, noting that it has lost its effectiveness against a number of infections. He also expressed worry that the problem of MDR–TB appeared to be growing. Dr. Sinkala highlighted as a challenge the demand for appropriate use of ARVs in Zambia. He stressed the great importance of monitoring and evaluation of ARV use to reduce the problem of resistance development.

Dr. Catherine Mukuka then gave an overview of the DTC functions and informed the team that the Lusaka DTC conducted a workshop last year for health center staff members on the practical aspects of drug management, with funding support from LDHMB. The workshop included a session on AMR, which dealt with, among other things, inexpensive ways of addressing the problem in the local context. Dr. Mukuka showed concern over the over–the–counter availability of antibiotics and talked about the challenge of ensuring that such drugs remain prescription–only medicines. She feels the private sector plays an important role in the delivery of health care in the Lusaka district and that it should be included when designing any AMR containment activities. She emphasized also the need for attention to drug quality and a drug information center.

Meeting with Dr. Eddie M. Limbambala, Medical Officer/Disease Prevention and Control, WHO, Lusaka

Dr. Limbambala thought that an AMR containment effort would be timely, particularly because there will soon be a large influx of ARVs and other drugs in the country. He feels resistance could soon become a major problem. One thought was that as the National Drug Policy continues to be implemented in Zambia, there may be a niche for an AMR component and it would be useful to incorporate the proposed AMR project. Dr. Limbambala further expressed that WHO would be happy to facilitate and push forward AMR containment ideas in Zambia. An interesting note: he had never heard of or seen the *WHO Global Strategy for Containment of AMR.*

Meeting with general practitioners and pharmacists

The team also met with a group of general practitioners and pharmacists: Dr. L. M. Kafwabulula, Dr. Mike Bush, Dr. Usha Padmanabhan, Mervyn Shakalima, Freda Mandona, and Anne Zulu. The general points that emerged include—

- The availability of all types of drugs in the informal market
- ARVs available with and being given out by wholesalers
- The lack of quality assurance for drugs entering the country
- The need for a strong laboratory component for gathering evidence on resistance levels

- The public's lack of awareness and need to be educated about AMR

It was apparent from the meeting that there is a strong need for better communication between the public and private sectors.

Presentation at Grand Round of the Department of Medicine, UTH

Dr. Joshi and Ms. Sommer made a 20-minute presentation on the global problem of AMR and the USAID initiatives to contain resistance. About 80 staff members attended, including professors, nurses, pharmacists, and consultant physicians. Following the presentation, there was discussion of issues such as drug quality, the drug regulatory environment in Zambia, reversal of resistance, the need for rapid diagnostic tests for quick identification of organisms, and the need for AMR containment programs.

ANNEX 4. REQUEST FOR COUNTRY CLEARANCE

TO: Robert Clay, USAID/Zambia
Barbara Hughes, USAID/Zambia
Stephen Hodgins, USAID/Zambia
Dyness Kasungami, USAID/Zambia

FROM: Management Sciences for Health (MSH)/Rational Pharmaceutical Management Plus (RPM Plus) Program, Cooperative Agreement # HRN-A-00-00-00016-00

SUBJECT: Request for Country Clearance for travel for Mohan Joshi and Nancy Pollock to Lusaka, Zambia from July 6–18, 2003.

COPY: Anthony Boni/Global HPSR/CTO RPM Plus
Marni Sommer, Pharmaceutical Management Advisor, USAID/GH

1. The RPM Plus Program wishes to request country clearance for proposed travel to Lusaka, Zambia by Mohan Joshi, Project Manager for Antimicrobial Resistance, RPM Plus Program and Nancy Pollock, Senior Program Officer, Change Project, for the period of July 6–18, 2003.

2. Background

   Antimicrobial resistance (AMR) is a major global health problem, threatening the beneficial effects of many health programs such as mother and child health, HIV/AIDS, TB, and malaria. Endemic and epidemic infections caused by bacteria that are resistant to relatively inexpensive first-line antibiotics are common throughout the world. Resistance to antimicrobials is increasing, making many infectious diseases more difficult to treat, and increasing morbidity, mortality and healthcare cost.

   In September 2001, the World Health Organization completed and published their strategy for containment of AMR. This global plan is comprehensive and complex, making it difficult to implement in many developing countries. There needs to be a succinct methodology for implementing the interventions contained in the global strategy at country level in order to address the emerging crisis of antimicrobial resistance.

   To further the WHO global initiative, RPM Plus, in collaboration with APUA, AED/Change, and Boston University/ARCH, is supporting the development of a systematic approach to guide the design of country-level efforts to contain AMR. This approach will provide a framework by which country stakeholders, working with technical consultants when necessary, can assess their AMR situation using local data and develop strategies for advocacy, policy development, and systems change. For these efforts to succeed, many

groups must have a role, including national governments, healthcare professionals and societies, consumers, NGOs, and the pharmaceutical industry.

The current generic process for development of a national AMR implementation strategy includes the following steps:

1. Identify a partner group of influential local supporters in the country.

2. Conduct a situation analysis to better understand (a) the extent of the AMR problem, (b) the political environment including identifying stakeholders, (c) existing policies and regulations, (d) the structure and functioning of the health care system as it relates to use of antimicrobials, and (e) research gaps.

3. Hold a policy options workshop to decide on priority interventions.

4. Develop specific strategies and interventions based on the workshop.

Although the approach is generic, the implementation process will be country–specific and unfold in different ways depending on the country. Whatever its specific character, it is anticipated the systematic approach will result in more active local health organizations, a higher level of awareness about AMR using locally generated data, and stronger policies and programs to contain and monitor the spread of resistance.

3. Purpose of Proposed Visit:

Dr. Joshi and Ms. Pollock will travel to Lusaka, Zambia with Ms. Marni Sommer, Pharmaceutical Management Advisor, USAID/GH, to brief mission staff on the proposed approach, identify and meet with local counterparts and AMR stakeholders, and plan initial next steps for field-testing the pilot AMR implementation plan.

4. Scope of Work for the team is as follows:
The scope of the work for Mohan Joshi and Nancy Pollock during the proposed visit will include the following:

- Meet with USAID officials in Zambia to present the pilot activity and obtain USAID recommendations of key stakeholders and resistance issues in Zambia

- Discuss logistics and coordination of planned activities with resident representatives of RPM Plus and ARCH

- Meet with other potential local partner groups and stakeholders relevant to AMR activities

- Provide a debriefing to USAID, if requested

5. Anticipated Contacts:

- Mr Robert Clay, USAID/Zambia

- Ms Barbara Hughes, USAID/Zambia
- Dr Stephen Hodgins, USAID/Zambia
- Dr. Dyness Kasungami, USAID/Zambia
- Mr Oliver Hazemba, RPM Plus Program
- Dr Michel Macdonald, ARCH Project
- Other key stakeholders relevant to the AMR activities

6. Logistics: Mohan Joshi and Nancy Pollock will arrive in Lusaka on July 6, 2003 and will leave on July 18, 2003. Accommodation will be at Pamodzi Hotel in Lusaka.

7. Funding:

   - Mohan Joshi's participation in the in-country work proposed will be paid for with RPM Plus AMR Global funding. Logistical arrangements for Nancy Pollock will be handled by the Change Project through AMR Global Funding.

8. Action: Please inform RPM Plus Program and the CHANGE Project whether country clearance is granted for the activity to take place as proposed. Please reply via e-mail to the attention of Anthony Boni, USAID/G/PHN/HN/HPSR, e-mail address: aboni@usaid.gov, tel (202) 712-4789, fax (202) 216-3702 and Dr Elizabeth Fox, email address: efox@usaid.gov, phone: 202-712-5557, fax: 202-216-3702. Please send carbon copies to Marni Sommer at msommer@usaid.gov, Douglas Keene at dkeene@msh.org, Cindy Rider, Change Project (crider@aed.org; riderc@earthlink.net), Nancy Pollock at npollock@aed.org, Mohan Joshi at mjoshi@msh.org, and Fiona Abolade at fabolade@msh.org. We appreciate your cooperation.